

ABSTRACT OF THE DISCLOSURE

A high pressure piston pump includes a housing having a low pressure fuel inlet and a high pressure fuel outlet; at least two pistons disposed in the housing; a driveshaft for supplying power to drive the at least two pistons; and a bypass valve fluidly connected to at 5 least one of the at least two pistons to deactivate the at least one piston. A method of varying the flow output of a high pressure piston pump having at least two pistons includes deactivating at least one of the two pistons by directing fluid displaced by the at least one piston to a bypass valve.